Rabies Vaccine Update
August 19, 2008

Division of Disease Control

North Dakota Department of Health

Historical Context 1

- Two manufactures of rabies vaccine
  - Sanofi Pasteur – IMOVAX (HDCV)
  - Novartis – RabAvert (PCECV)
- May 19, 2008 – CDC notice
  - Sanofi will provide IMOVAX only for PEP
  - Providers should consult with state public health before ordering vaccine
  - Novartis has RabAvert available only in limited quantities for PEP only

Historical Context 2

- Sanofi – on June 1st shut down its rabies vaccine production facility
  - Planned shut down
  - Established an inventory based on historical sales
  - Expected to be operational by mid-to-late 2009

Historical Context 3

- June 16th, CDC update
  - Rabavert - Novartis will not release vaccine shipments not confirmed through state public health officials
    - Requires a confirmation code from state public health officials
  - Priority is for post-exposure prophylaxis (PEP)
  - Pre-exposure (PrEP) vaccine limited to those in critical occupations with state public health approval

Historical Context 4

- June 17th –CDC update
  - Priority use for vaccine is for PEP not PrEP
  - As of this date, Novartis will temporarily cease to provide vaccine-(RabAvert) for either PEP or PrEP
  - RabAvert should be available again in July

Historical Context 5

- July 15th CDC update
  - Novartis (RabAvert) vaccine is again available only for PEP
  - Novartis will require medical providers to receive approval through state health officials to order vaccine by using a confirmation code
  - Novartis anticipates more vaccine will available this fall

Historical Context 6

- July 31st CDC update
  - Novartis announce the confirmation code is no longer needed to order vaccine

Historical Context 7

- August 11 CDC update
  - IMOVAX (Sanofi) vaccine is no longer available
  - Sanofi expects to have more doses available in late September – early October
  - Novartis is continuing to supply RabAvert without a confirmation code

Historical Context 8

- August 15 CDC update (most current)
  - Increased demand of RabAvert causes Novartis to again require medical providers consult with state public health officials
  - Novartis is again requiring a confirmation code
    - Available from Disease Control at 800.472.2180 or 701.328.2378
    - Will change frequently
  - Vaccine for PrEP is available only for those at highest risk after consultation with state health officials.

Handling Possible Exposures

- Many local health units as well as the Division of Disease Control provide guidance regarding possible rabies exposures
  - Local health units that currently provide guidance should continue to do so
  - In situations in which the need for PEP cannot be ruled out, LPHU should consult with Disease Control

Some Critical Updates on ACIP Recommendations

- MMWR, Vol 57, May 7, 2008 – early release
  - Updates the 1999 guidelines
- -cost-effectiveness of vaccines
- Probability of rabies transmission to humans
  - ie. For an animal that tests positive for rabies the probability of rabies transmission after exposure ranges from 0.01 to 0.7 and it is cost saving to administer PEP
  - For a dog lick from a dog with unknown status in the US, the probability is 0.000001 with a cost of $4 billion

MMWR 2

- Nonbite exposures
  - Rarely result in rabies
  - Organ recipients, aerosols in labs, airborne in caves
  - **Contamination of open wounds, cuts, abrasions (including scratches) or mucous membranes with saliva or other infectious material**
    - Other material = neural tissue
  - Fragile virus (UV, dessication)
  - “non-bite exposures almost never been proven to cause rabies ….. unless the exposure met the definition…”

MMWR 3

- Bat Exposures
  - Bat variant viruses are responsible for most human rabies in the United States
  - “any potential exposure to a bat requires a thorough evaluation”
  - Bats involved in potential exposures should be safely collected and submitted for rabies diagnosis

MMWR 4 - Bats again

- Rabies risks following an encounter with a bat is difficult to asses
  - Limited injury from the bite
  - Inaccurate recall of encounter
  - Evidence that some bat-related rabies viruses might be more likely to result in infection after inoculation into superficial epidermal layers.
  - “if the person can be reasonably certain…”

MMWR 5 – more Bats

- Situation which may qualify as an exposure to rabies
  - Finding a bat in the same room as a person who might be unaware that a bite or direct contact had occurred
    - Waking up to find a bat in the room
    - Adult witnesses a bat in the room of a sleeping person, young child, intoxicated person, disable person, etc.
  - Other situations where a bat is found in the home should be evaluated on a case by case basis.

MMWR 6 - Wild Animals

- Raccoons, skunks, foxes and terrestrial carnivores
- PEP initiated as soon as possible
  - Unless public health officials are facilitating expedited testing or if rabies testing is already negative (evaluated case by case) .
  - Factors to consider before initiating PEP prior to diagnosis
    - Species, behavior/health, provoked, severity and location of the bite

MMWR 7 - Lagomorphs and Rodents

- Rabbits, Hares and Rodents
  - Rarely carry rabies and have not been known to transmit to rabies to people
  - Groundhogs
  - Muskrats

MMWR 8 - Dogs, Cats, Ferrets

- No real changes or new clarifications
  - Rule out rabies
    - Test
    - Hold and observe for ten days
  - If animal is available and is healthy, it is ok to wait to start PEP
  - Situations involving domestic animals not available for testing or observation should be handled on a case-by-case basis

MMWR 9 – Treatment (PEP)

- Three components
  - Wound treatment – don't underestimate this measure
  - RIG – for previously unvaccinated people
    - 20 IU/kg body weight
    - As much as possible in/around the wound site
  - Vaccine
    - 5 doses (0,3,7,14,28)
    - Deviations
      - Serologic testing